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CANNING AND PRESERVING WITH 4-H RECIPES

A North Carolina Canning Club at Work.

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INTRODUCTION

This Bulletin on Canning and preserving is intended especially for members of the North Carolina Canning Clubs, and contains regulations and standards to which club members are expected to conform.

The purpose is to have over the whole State a uniform standard for canning club products, and to permit the 4-H Brand to be seen from Cherokee to Currituck on standard products only.

There doubtless are many outside recipes just as good, some that are perhaps better; but these offered in the Bulletin have been tried for years, proven satisfactory, and are chosen as the standards for North Carolina. Any club member, therefore, canning under the 4-H brand is required to use these recipes to the exclusion of all others.

CANNING AND PRESERVING WITH 4-H RECIPES

Jane S. McKimmon, State Agent in Home Demonstration Work.

THE 4-H BRAND.

The 4-H brand represents Head, Hand, Heart and Health.

In the production of a product which shall rank with the best standard brands, the **Head** is developed by devising ways and means, and evolving plans.

The **Hand** is taught to cunningly and systematically execute.

The **Heart** grows big enough to take in all other workers and bid the hand lend assistance wherever it is needed.

The **Health** is promoted by wholesome work in the fresh air and the happy commingling of friends and neighbors.

The 4-H Brand.

CANNING

It is the part of wisdom when deciding to can in tin or glass to order supplies early and to be in readiness when the fruit or vegetables ripen.

Cans.—In ordering tin cans the best are none too good. Always stipulate that they shall be twice dipped, as leaks may occur with the cheaper ones. Be sure also that the order includes solder hemmed caps. These caps are sealed very easily on the cans, whereas those without solder are troublesome and tedious. The No. 3 can is most popular for tomatoes, peaches, etc., and holds a quart. No. 2 is the next size smaller, and is used generally for peas, corn, soup mixture, etc. No. 1 is the size used for pimentos. No. 10 is supposed to hold a gallon. All of these cans may be ordered with the same size opening; and care should be taken in ordering to state the size of the capping steel—2 1-16 inches in diameter or larger, as the case may be. Two and one-sixteenth inches is the standard opening for North Carolina clubs.

The Canner.—The hot water canner has been used almost exclusively by the North Carolina Canning Clubs, and many excellent types of this canner are on the market. It is stipulated that all canners used by club girls shall have closely fitting tops, as steam plays an important part in the sterilization of cans. Out-of-door canning is encouraged, and the use of canners with good fire boxes built in them is urged, It is usually best to buy a canner, as it comes equipped with capping steel, tipping copper, tongs (with which to lift cans), and handy baskets or trays, which will enable you to lift out of or lower into the hot water many cans at once. Good home-made canners may be used, however, and are very satisfactorily devised from a large galvanized tub which is fitted with a tight top and used either on the cooking stove or on an improvised oven in the yard. Wire baskets may be devised of stout wire netting to be had at hardware stores. A good canner substitute, when only a few cans are to be sterilized at once, is a twenty-pound lard bucket. If glass jars are to be used in these home-made canners, be sure to make a false bottom of wooden laths which shall keep the jars from coming in contact with the metal bottom of the vessel.

The Capping Steel.—Unless the capping steel is kept in good condition there will be untold trouble in sealing cans.

To remove rust from the steel, rub with coarse sandpaper or use a file, being careful not to hurt the edge.

The steel is now ready to be tinned or coated with solder. To do this it is necessary to have soldering flux, solder, and sal ammoniac.

Heat steel quite hot, dip quickly in flux and rub in sal ammoniac and solder. It should emerge bright and shining.

Soldering Flux.—Put ½ cup of commercial hydrochloric (muriatic) acid in glass or china vessel (never metal), add as much zinc as it will dissolve (half a top of an old Mason jar, which is made of zinc, will do). The mixture will boil furiously. When this has subsided, remove zinc, add ½ cup of water and place mixture in glass jar ready for use.

Sal Ammoniac Mixture.—Place in a vessel a handful of sal ammoniac, melt or cut into this small pieces of solder.

Tipping Copper.—This is a small pointed copper implement to be used in sealing or tipping the small hole in top of can, and should be kept brightly tinned in the same manner as the capping steel.

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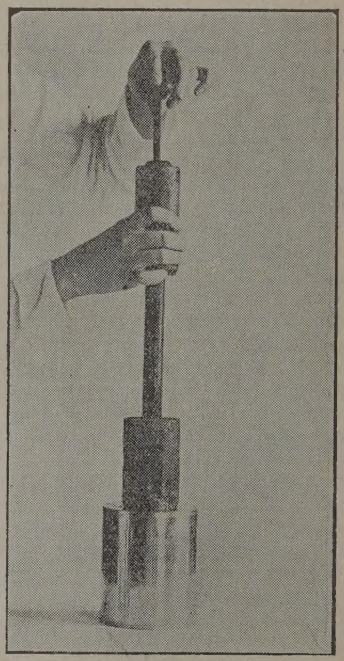
STEPS TO BE TAKEN WHEN CANNING IN TIN WITH DEFINITIONS OF TERMS USED

1. **Sterilizing.**—Sterilize all cans which are to be used by first washing to remove any trash or dirt and then placing them in a canner where water is boiling. Let them remain ten minutes. Remove and turn open end down on table that no dust or insect may enter before they are used.

2. **Sorting and Grading.**—Select only sound, thoroughly ripe fruit and grade as to size and color. Thoroughly clean and peel.



Using the Capping Steel.

3. **Blanching.**—Where the recipe calls for blanching, be sure it is never omitted. Blanching is simply plunging fruit or vegetables into boiling water for a few minutes before packing them into cans. It is necessary that this be done with string beans, peas, beans, etc., and with some fruits.

The flavor of the vegetable is made more delicate and the vegetable itself more pliable. This makes packing easier. The liquor in the can is made clearer also by the process. To blanch, place vegetables or fruit in the wire basket of canner or in a thin muslin sack before plunging in boiling water. The time of blanching is given in time table.

4. **Packing.**—After fruit or vegetables are blanched, pack them in sterilized cans or jars until the can is filled to about ¼ inch of the top. Begin to pack firmly with spoon or paddle when the first bit of fruit is put into a can, pressing down gently until the can is filled; now pour in brine or syrup, waiting until you are sure every crevice is filled. Tomatoes must have no water added. Sufficient juice will be present to fill crevices. Be sure the can is up to standard weight. This is shown by placing it on the scales and consulting the table. Do not pack the can so full that the fruit touches the cap, as then it can never be sealed properly. The hot steel will force steam from the fruit and pin holes will be blown in the solder. If the can will not seal, remove a portion of the fruit and try again.

Standard Packs in Tin.

5. **Paddling.**—In packing canned or preserved products in glass it is necessary to use a thin flexible wooden or reed blade. This is run into the jar to help place fruit and also to remove air bubbles. The paddle is also quite useful in packing tin cans.

6. **Fluxing.**—Apply soldering flux with a wick to the edge of the can openings, thus roughing the tin and permitting the solder to adhere more easily.

7. **Capping.**—Seal the cap on the can with a capping steel after it has been packed. Always wipe around the edge of the opening with soldering flux before using the capping steel. Mark on the can in pencil the name of product. It will not boil off.

8. **Exhausting.**—After the can is packed and capped it is placed in the canner of boiling water, where it remains the number of minutes, usually three, indicated on the time table. This is done to force the air from the can through the little hole left open in the top and is called exhausting. Cans that are not exhausted frequently bulge after processing and are looked upon with suspicion. Cans exhausted too long frequently cave in at the sides. The time table should be used carefully and followed strictly in this part of the process.

9. **Tipping.**—Seal with a drop of solder the small hole in the top of can. This is done immediately after the can has been exhausted and makes it ready for processing. Always put soldering flux around the opening before attempting to tip.

10. **Processing.**—After the can has been capped, exhausted and tipped it is ready for the processing. This is simply sterilizing by boiling continuously for a given length of time. First plunge the cans under water to be sure there are no leaks. These will be revealed by streams of bubbles rising to the surface. If there be any, the can must be taken out and resealed. It is either packed too full or the capping steel is cold or needs tinning. Place cans for processing in trays and lower them into the boiling water. The temperature of the water will then be reduced. Wait until boiling begins again before time is counted. Keep the water boiling every minute of the time during processing and remove cans promptly when time is up. Consult time table, and always have a clock or watch at hand. Do not guess.

11. **Cooling.**—Cans should be cooled as quickly as possible after processing. Place them in tubs of cold water, and when they are taken out separate them in order that the air may keep them cool. Never stack cans while warm and never leave them in the sunshine. The flavor of the fruit is injured and the fibre or flesh breaks down if the can is left too long in a heated state. Always store canned products in a cool place. Never allow the can to rust by keeping it in a damp cellar. Its appearance will mitigate against the marketing, and rust may eat holes in the tin.

12. **Labeling.**—Do not label a can until ready to sell, when the fresh label will be a great asset. After packing can write plainly with pencil on the side the name of the product. This will not boil off, and no trouble will be experienced in pasting on them the proper labels. Place the label in such a way that the smooth end of the can will be the top, turning the sealed end down. A better appearance is thus made. Use a good paste, such as given in the recipe below, and put paste on only one end of the label. Pull the label tightly around can, making it look thoroughly neat and trim. The 4-H label may be used by club members only, and then only when products are of the standard regulation. The label must contain the name and address of member and net weight in ounces of contents of can.

Paste.—To 1 cup of flour add 1 cup of cold water and mix thoroughly. Add 2½ to 3 cups of boiling water, stirring to prevent lumps. Place on stove and bring slowly to boiling point and boil 5 minutes. Stir to prevent burning.

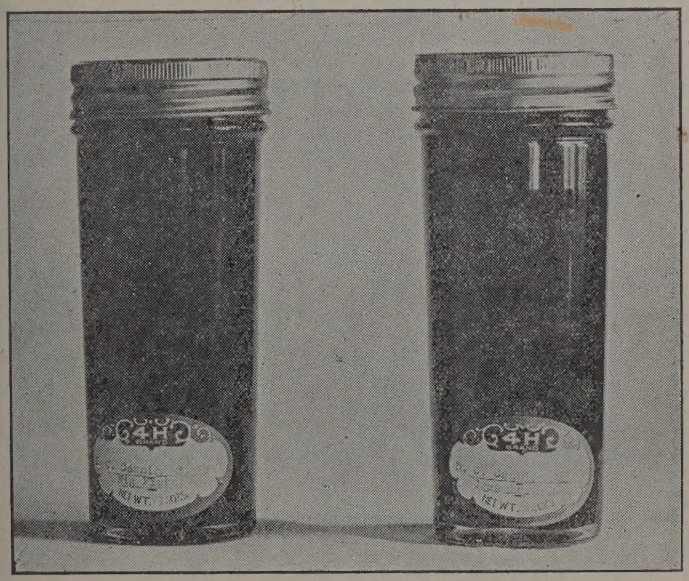
When cooked add 1 teaspoon of powdered alum and ½ teaspoon of oil of cloves. Pour into small glasses with covers.

This will keep, and makes excellent paste to use in labeling cans or jars.

CANNING IN GLASS

Select a good spring top jar of crystal clear glass or a 12 oz. commercial jar with glass top and screw rim. Procure good rubbers. The best on the market are none too good, as on these depend a perfect seal. A rubber after having been in service should not be used again.

Packing.—Pack fruit or vegetables in jars in symmetrical layers, using a thin reed paddle to push into place. This paddle may be used also to draw out air bubbles. Wipe dry the rim of jar and place rubber thereon. Push spring down lightly and place the jar in tepid water, **never in hot.**



Properly Labeled Jars.

Bring to a boil and exhaust for fifteen minutes. Push the spring down tightly after this, or if a screw rim jar is being used, screw the rim tightly. Process for the length of time given in the recipe. Count time after the water begins to boil.

Labeling.—Have every jar brightly polished and place label midway between the seams and ¼ inch from the lower edge. The steps for canning in glass are almost identical with those in tin, with the exception that care must be exercised not to put cold glass in hot water or vice versa. Exhaustion may be for a longer period in glass, as there is no danger of a caved-in can, and the danger of blow-outs of the rubber rings is lessened.

Fractional Sterilization, or the So-called Three Days' Process.—Such vegetables as corn, beans, peas, squash, spinach, pumpkin, etc., cannot be sterilized in one day's processing in a hot water canner. The heat is not sufficient to destroy spores, therefore the following method is required:

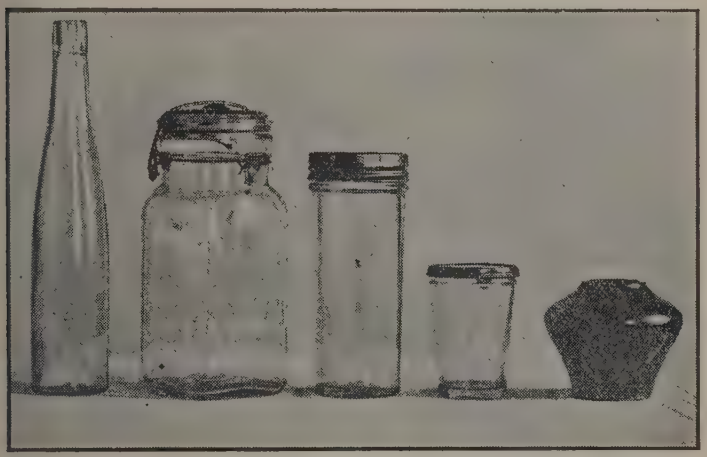
Vegetables are prepared and packed as heretofore directed, and the filled cans put into the canner and processed a given length of time to kill all active bacteria. This is usually accomplished in one cooking, but the spores from which bacteria develop are not destroyed. When the can is set aside to cool these spores develop into active bacteria, and by placing the can in the canner the second day in the same manner and for the same length of time as on the first, these bacteria are destroyed. It happens that some spores are late in developing and bacteria appear after the second boiling, therefore it is necessary to place the can in the canner again on the third day for the prescribed length of time. This completes the process and gives us a well sterilized can. After each day's processing the cans should be cooled quickly and set aside until the next day. Exhaust jar for the required minutes on first day then push spring down tightly. Never disturb this seal after you have once effected it. The jars must be left tightly sealed through the second and third processing.

SOME THINGS TO BE OBSERVED WHEN CANNING

1. Keep water at a jumping boil and do not allow fire to die down for an instant while cans are in the canner.

2. Keep cover on canner every moment of the processing time. Steam plays a large part in cooking contents of can.

3. If possible use two canners at a club canning party, one for scalding fruit and the other for canning. A large pot set over a fire is good for scalding.



Standard Glass Containers: 10 ounce Ketchup Bottle, Quart Queen Jar, 12 ounce Jar No. 5042; 6 ounce Jelly Glass, 10 ounce 4-H Jam Pot.

4. The quality or grade of the pack depends on the number of whole fruit or uniform pieces of fruit in the can, the color of the fruit, the weight, and the flavor.

5. The flavor is often injured by letting peeled fruit stand too long before cooking. Prepare at any one time as many cans only as can be processed immediately.

6. Let straight from vine to can be the motto. Never can stale fruit.

The following standards are sent out by the United States Department of Agriculture:

Score for judging the quality of canned fruits and vegetables.

	Score of 100.
I. Appearance	25
(a) Color.	
(b) Clearness.	
II. Texture	10
III. Flavor	20
IV. Uniformity	15
(a) Ripeness.	
(b) Appropriate size.	
V. Pack (arrangement)	15
VI. Container	15
(a) Appropriate package.	
(b) Label.	
(c) Neatness.	

STANDARDS FOR 4-H BRAND CANNED FRUITS.

Figs.—Net weight contents No. 2 enamel-lined can of figs should appear on label not less than 1 pound 6 ounces. Figs should remain whole and a No. 2 can contain about 30 to 35 whole figs.

Peaches.—No. 3 can to have at least 1 pound 5 ounces solids and 11 ounces liquid; to contain between 10 and 12 halves of peaches and have net weight of contents appearing on label not less than 2 pounds.

Pears.—Net weight in No. 3 can should be not less than 2 pounds, having 11 ounces liquid, 1 pound 5 ounces solids, and between 12 and 14 halves.

Berries.—No. 3 can blackberries or raspberries, net weight 2 pounds; No. 2 cans, net weight 1 pound 6 ounces, whole berries weighing about one-half of total in each case. Berries to be large, whole, of good color and flavor.

INSTRUCTIONS TO AGENTS FOR PUBLIC CANNING DEMONSTRATIONS

There will be many calls for public demonstrations. These are to be encouraged, as it is desirable that the work be put before the public; but care should be taken that both club members and county agent know how to can before making an attempt in public.

Have everything ready before the audience arrives; the canner filled with water first and next a good fire to keep the water boiling. Detail one girl to look after this. Two canners are best if possible, or a large pot and a canner that there may be one for scalding fruit and the other for processing products. Cover two tables with white oil cloth (if this is not possible, scour table clean and white); secure two large tubs filled with cold water, one for washing cans and the other for the cold plunge before peeling the scalded fruit; one dishpan and three or four pans and bowls for holding fruit peeled and unpeeled; three tablespoons; three teaspoons; two paring knives; a wash pan; one cake of soap; hand towels; plenty of dish towels; several pieces of clean cloth; cans; caps; solder; soldering flux; wick or twist of cloth to apply same; a pair of scales; capping steel; tipping copper; a pair of scissors; a clock; labels; paste. Have enough wood for the fire and plenty of water and water buckets convenient.

Let every girl have a white apron and cap, and do not have too many working at one time at a public demonstration. Seven girls are enough; one to attend to the fire, cooking, and timing of products; two, to scald and peel; two, to pack and weigh; one, to cap and tip; and one to label. Let the girls stand on one side of the table that the audience may observe what is being done.

Be sure to impress proper weight of the cans upon club girls. Tell them what is required before products can be put upon the market. Continually preach only **red, ripe tomatoes,** and **firm, thoroughly ripe fruits and berries** for canning. The idea is prevalent that unripe fruit is good enough for canning, if it is well cooked. This, of course, will lower the grade.

Let no girl use the Club label whose products are not up to standard.

TIME TABLE.

Use this time table only after recipes have been read.

	Blanch	Liquor	No. Can	Exhaust Minutes	Process or Boil
Tomatoes		No Water	3	3	25 Min.
Tomatoes		No Water	10	5	1 Hour
String Beans	3-5 Min.	Brine*	3	5	1 Hour
String Beans	3-5 Min.	Brine*	10	5	2 Hours, 20 Min.
Sweet Potatoes	Cook ¾ Done	2 Tbsp. Water	3	3	3 Hours
Baby Beets	Cook ¾ Done	Brine*	3	3	1½ Hours
Soup Mixture			2	3	1 Hour
Apples	1 Min.	No. 3 Syrup	3	3	8 Min.
Berries		No. 4 Syrup	3	3	10 Min.
Berries		No. 4 Syrup	10	5	32 Min.
Figs		No. 4 Syrup	2	3	25 Min.
Peaches	1 Min.	No. 4 Syrup	3	3	15 Min.
Pears	1 Min.	No. 4 Syrup	3	3	20 Min.
Pears	1 Min.	No. 4 Syrup	10	5	35 Min.
Cherries		No. 4 Syrup	Qt. Gla. Jar	5	20 Min.

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The following vegetables should be processed the same length of time on each of three successive days:

	Blanch	Liquor	No. Can	Exhaust Minutes	Process or Boil on Each Three Successive Days
Corn		Water, Salt and Sugar	2	10	1 Hour, 15 Min.
Garden Peas	1-4 Min.	Water, Salt and Sugar	2	3	45 Min. to 1 Hour
Okra	3 Min.	Brine*	2	3	1 Hour

*Brine is made of 2½ ounces (⅓ cup) of salt to 1 gallon of water.

To make syrups recommended, boil sugar and water together in proportions given below:

Syrup No. 1, use 14 ounces to 1 gallon water.
Syrup No. 2, use 1 pound 14 ounces to 1 gallon water.
Syrup No. 3, use 3 pounds 9 ounces to 1 gallon water.
Syrup No. 4, use 5 pounds 8 ounces to 1 gallon water.
Syrup No. 5, use 6 pounds 13 ounces to 1 gallon water.
One pint sugar is one pound. A pound is 16 ounces.

North Carolina County Agents Attending Canning School and Conference, 1915.

4-H BRAND RECIPES

VEGETABLES

Canned Tomatoes.—Pick tomatoes from vine when they are beginning to turn red and place on shelves in shade until thoroughly ripe.

Select only ripe tomatoes for canning. Any fruit less well-colored may be used for soup mixture or ketchup.

One green or light tomato will ruin the grade of the pack.

An Exhibit Pack of String Beans.

Scald by placing in wire basket and plunging this into boiling water for one minute, then immediately into cold water. The skin will slip off easily. Do not peel any more than may be immediately canned, as tomatoes ferment quickly.

Be careful to remove with sharp knife the hard part of tomato at stem, but do not cut into seed cells.

Put into your cans as many whole tomatoes as possible, cutting them only when they are too large to slip in. Fill to within ¼ inch of the top, press gently and shake down fruit to fill crevices.

A level teaspoonful of sugar and a level teaspoonful of salt to a No. 3 can of tomatoes improve the flavor of the product.

Use no water with tomatoes. If the can is properly filled the juice will be sufficient. A No. 3 can of tomatoes when filled should weigh 38 ounces.

Exhaust 3 minutes; seal; process 25 minutes.

String Beans.—No. 3 or No. 2 can.—To can string beans select beans that are young and tender and which have few strings. The Green Pod Stringless is a good variety. The trade likes a green bean about the size of a rat-tail, hence the term "Rat-tail Beans." If the beans are gathered when young and tender, and every vestige of string is removed, there is no doubt of a market. Snap the bean at both ends, string, and put in the wire basket of the canner or in a thin cotton bag, and plunge in boiling water for from 3 to 5 minutes. This removes certain acids and makes the flavor of the beans better. Never forget this when canning beans. Remove after the given time, pack tightly in sterilized cans within ¼ inch of the top and fill with hot water. Add 1 level teaspoonful of salt, seal, exhaust for 3 minutes, tip and return to the canner for 1 hour's processing.

For No. 10 cans use 1 level tablespoonful of salt, exhaust 5 minutes, tip, and process 2 hours and 20 minutes. Turn cans over once or twice while processing.

Always can beans the same day they are gathered, remembering the motto, "straight from the vine to the can." This insures sterilization in one hour's cooking. Stale beans or old beans necessitate the three day process.

Soup Mixture.

5 quarts tomatoes,
2 quarts corn,
2 quarts okra,
2 tablespoonfuls sugar (level),
2 tablespoonfuls salt (level).
Scald and peel tomatoes, cutting out green or hard spots.
Chop and measure.
Cut young and tender field or sugar corn from cob.
Slice okra in rings ½ inch thick.
Place all in open agate kettle and boil until thick.
Pour in No. 2 can while hot, seal and process 1 hour.

Canned Sweet Potatoes.—The Norton yam or other varieties of yellow potatoes are best for canning.

Select potatoes of medium size. Place in wire trays or sacks and boil until three-fourths done. Remove peeling. Cut in slices three-quarters of an inch thick, pack No. 3 can full, using only 2 tablespoonfuls water in a can. This is known as a dry pack, and is the proper commercial pack.

Exhaust 3 minutes; seal; process 3 hours.

Canned Baby Beets.*—Use only young and tender beets not over one inch in diameter, preferably three-fourths of an inch.

Boil three-fourths done, pack in cans or jars, using fruit of uniform size, and arrange symmetrically.

After packing jar, fill crevices with hot water. (Never use cold after cooking beets.)

Seal; process No. 3 can or quart jar 1½ hour.

Spinach.†—Prepare the spinach by cutting off all dead leaves and roots. Cover each peck of spinach thus prepared with scalding soda solution (1 teaspoonful soda to 1 gallon water), and let stand for 2 minutes. Wash thoroughly through several cold waters, drain well. Blanch in rapidly boiling water for 4 minutes. Drain well, pack in sterilized No. 3 cans or jars, cover with boiling salt water (1 teaspoonful of salt to 1 quart of water). Exhaust 3 minutes. Process 1 hour at boiling.

Sauerkraut.‡—Sauerkraut is made by the natural fermentation of cabbage in casks. The cabbage heads are stripped of all outside or green leaves, leaving only the white, sound head. It is then cut into thin slices in a specially constructed machine. The long, fine-cut cabbage is evenly spread and well packed in casks. To each layer salt is added at the rate of about 2 pounds per 100 pounds of cabbage. The salt is used as flavoring and to modify in some degree the fermentation. If too much salt is used, a pinkish color results; if too little, the fermented product may become more or less slimy. The temperature of the weather at the time of putting up the cabbage also influences the fermentation. If the weather is very warm, the fermentation is too rapid, the product has a very white, but more or less slimy appearance, and the cabbage is tough rather than of a natural crispness. If the temperature is very low, the fermentation will be arrested. The best temperature is probably between 60° and 70° F., and the process requires about four weeks. Fermentation begins as soon as the cabbage is placed in the cask, but there is only a slight rise of temperature as compared with most fermentation processes. A heavy foam rises to the top, which must be skimmed off every day, and when this ceases to form the brine goes down and the process is complete. Use can be made of the kraut at once, though it seems to be better after standing. The kraut will keep in the casks for a long time, provided there is no leakage, and the spoilage is usually limited to a few inches on the top.

Kraut is easily canned, which is the only clean way of dispensing it in groceries in small quantities. The canning should be done while it is in the freshest possible state at the point of production, when it is from 4 to 6 weeks old. Kraut is easily kept. The cans should be filled full, weighed, and sufficient hot water added to fill the can; then exhausted for 5 minutes, capped, and processed at boiling temperature for 25 minutes. This is for No. 3 cans.

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*Creswell. Home Demonstration U. S. Department Agriculture.

†Powell. Home Demonstration U. S. Department Agriculture.

‡Bitting. Bulletin No. 196, U. S. Department Agriculture.

A properly filled No. 3 can should not contain less than 22 ounces of kraut, as determined by emptying upon a sieve of one-eighth inch mesh and allowing to drain for two minutes.

A kraut cutter can be bought at a hardware store.

Corn.—Corn, butterbeans, peas, squash, and some other vegetables require three days processing, and are all best canned in smaller cans and jars. No. 2 is good.

In canning corn, select it when young and very tender, cut the grain from the cob with a sharp knife, gently scraping cob. Use sugar corn for canning. If this cannot be procured, take field corn, but be sure it is very tender. Do not prepare more corn than may be canned immediately, as it quickly sours and the can may be lost. Pack in No. 2 cans (do not use larger cans for corn) to within ¼ inch of the top; fill with cold water; add 1 level teaspoonful of salt and 2 level teaspoonfuls of sugar; seal but do not tip; exhaust 15 minutes. Tip the hole with a drop of solder; return to the boiling water and process for 1 hour. Remove from fire and set aside for 24 hours.

After the water is boiling in the canner the second day, place the cans therein for a second processing of 1 hour in length; remove, set aside for 24 hours, and process again 1 hour on the third day.

This is the only sure method of keeping corn. Never use any acids or preserving powders.

Butterbeans, peas and okra are canned in the same manner. Add 1 level teaspoonful of salt to butterbeans, peas and okra; add 2 level teaspoonfuls of sugar to peas.

It is not advisable for club members to can corn, butterbeans and peas for the market.

Canning Peppers.*—The peppers should be picked in the early morning and handled carefully to prevent bruising. This can be done by placing them in shallow trays, from which they can be easily sorted. The medium-sized, uniformly sound peppers should be canned whole. The irregular, broken ones may be cut into strips and canned or used in relishes, sauces, or soup mixtures.

Standard Packing in Tins.—Select sound, uniform peppers of medium size. To remove seeds, cut around the stem of each with a slender paring knife and remove the inside partitions. To peel, place the peppers in a hot oven from 6 to 10 minutes (until the skin blisters and cracks), being careful not to allow them to burn. Then remove the skin with a slender paring knife. Flatten the peppers and pack in horizontal layers. Place whole, uniform peppers in the cans, putting four peppers into the flat No. 1 can and eight into the No. 2 can.

This number makes the standard pack, the net weight of which should not be less than 1 pound in a No. 2 can and 8 ounces in a flat No. 1 can. The peppers should be so selected as to fill the cans. No liquid is used. The processing brings out of the peppers a thick liquor, which almost covers them in the can or jar. Cap and exhaust flat No. 1 cans for 2

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*Creswell. Home Demonstration U. S. Department Agriculture.

minutes and No. 2 cans for 3 minutes. Tip and process in hot water at boiling temperature, the flat No. 1 cans for 15 minutes, the No. 2 cans for 25 minutes.

Fruits and Berries.—When canning fruit and berries, always add sugar or the product will be graded as pie fruit. A syrup made by boiling 1 pint of sugar and 1½ pint of water gives a good proportion of sugar to fruit and berries, and is in a better form than the plain sugar and water to add after the fruit has been packed in cans. If a heavier syrup is desired, 1 pint of water to 1 pint of sugar is used. This is for fancy products.

Can only ripe, firm fruit and berries. Fruit which is green on one side or not fully matured is unfit to can, and the flavor is so poor that it could get only a very poor grading.

A Good Pack of Peaches.

Peaches.—For canning the clingstone peach is better than the freestone, though the freestone is quite generally used.

The following varieties have been selected as the best canners by Mr. W. N. Hutt, Horticulturist of the North Carolina Experiment Station. They are given here in the order of excellence:

Clingstones—Eaton's Gold, ripe in September; Heath, ripe in September and October; Albright, ripe in October.

Freestone—Hiley, Belle, Reeves, Elberta, Matthews and Chair's Choice—all ripe in August.

Select peaches of uniform size and color for canning. The discarded fruit, if ripe and sound, may be used in marmalade or jam.

Peaches must always be cut in halves when canned. This can be easily done in a freestone peach. If a clingstone is used cut the peach before peeling all around the edge or suture, grasp a half with each hand, giving a quick twist, and the peach will break in halves. Peel very smoothly, leaving no edge, and remove the stone. Place these halves in wire basket and plunge in boiling water for one minute. They will then be pliable enough to pack.

Place in jar in overlapping layers with the pit side down, paddling very carefully to remove air bubbles.

Add a syrup made of 1 pint of sugar and 1 pint of water. It is necessary to use a heavy syrup, as the pack is so close that only a limited amount can be poured into the jar. Always add the syrup bit by bit as you pack. It will be difficult to fill all crevices otherwise.

Fill No. 3 tin can full, but it is not necessary to pack in symmetrical layers. For this pack use syrup: 1 pint sugar and 1½ pint of water.

Exhause No. 3 can 3 minutes; process can 15 minutes; process jar 20 minutes, with clamp lightly sealed, then clamp tightly and remove jar from canner.

Always add a peach stone which has been cracked to the boiling syrup. It will improve the flavor. Remove before adding syrup to peaches. Peaches should always be graded as to color and size. Never pack in the same jar peaches of varying colors.

Canned Apples.—Late fall and winter apples, which are slightly acid, are best for canning. They shrink more in canning than most fruits, therefore they should be blanched for 1 minute before processing. Plunge in cold water afterwards, pack tightly in No. 3 cans, cover with syrup (1 pint of sugar, 1½ pint of water).

Exhaust 3 minutes; process 8 minutes.

It is not advised that apples be canned for sale, as the market is not good.

Canned Pears.—The Bartlett pear is the best for canning. Select ripe, sound, medium-sized fruit (cut in halves). Remove all the hard portions around the seed, submerge in cold water to prevent discoloration, pack and proceed as for apples, using No. 3 can.

Exhaust 3 minutes; process 20 minutes.

Canned Figs.—Select ripe but firm figs, peel by hand, or by scalding with soda water, pack firmly in jars or cans, add syrup made from 1½ pint of water and 1 pint of sugar. Use No. 2 can.

Exhaust 3 minutes; process 25 minutes.

Canned Cherries.—Cherries are canned without the seed and should always be put in glass jars. The acid is frequently so strong that it eats through tin; and even lacquered tin does not do as well as glass. Be careful to

notice that all cherries are sound at heart. The large wax cherries are often canned whole, and are very delicious.

Syrup: 1 pint water and 1 pint sugar.

Exhaust 3 minutes; process 20 minutes.

Canned Berries.*—For dewberries, blackberries, and raspberries, practically the same methods of canning may be used. The condition of the fruit will have much to do with the quality of the product. The berries should be gathered in shallow trays or baskets and not in deep vessels, which allow them to be bruised and crushed. They should be uniformly ripe, sound, and as large as possible. It is necessary to can all varieties of berries in glass or else to put them in enamel lined cans, because if canned in ordinary tin cans, the berries will lose both color and flavor very quickly, and be unfit for use or for sale.

The flavor of canned berries will be finer if sugar is used in canning. It is best to make this into a syrup. The use of berry juice instead of water in this syrup will give a richer color and flavor. For fine berries, use a syrup of 30 degrees density (about 3½ pounds sugar to one gallon juice or water).

Tomato Ketchup.—Select only ripe tomatoes for ketchup; wash but do not peel; cut out green cores and bad places; quarter, measure, and place on stove in open top, porcelain-lined, or agate vessel. For every gallon of tomatoes add 1 level cup of finely chopped onion. Boil until both tomato and onion are soft. Strain juice and pulp through a coarse wire sieve, mashing through all the pulp possible. Measure this strained pulp and juice and proceed as in the following recipe:

2 gallons strained mixture tomatoes and onions,
2½ level teaspoonfuls ground cloves,
3 level teaspoonfuls ground ginger,
2 level teaspoonfuls ground red pepper,
3 level tablespoonfuls ground allspice,
1 level tablespoonful ground black pepper,
1½ level cup (½ pint cup) sugar,
¾ level cup (½ pint cup) salt,
1 quart vinegar.

Place strained tomatoes in agate vessel; add spices, sugar and salt; boil until thick; then add hot vinegar slowly and let boil 30 minutes before beginning to bottle mixture.

Use clear flint 10-ounce grape juice bottle. Wash well with soda and place in vessel of hot water until you are ready to use. It is best to put wooden slats in the bottom of vessel, place the bottles filled with water thereon, and let come to a boil, thus sterilizing. Pour out water. Fill hot bottles with boiling ketchup. Cork tightly.

The measures for all recipes must be taken level. Scrape off spoons with a knife, patting and scraping until measure is level. These measures have been taken accurately, and one should get good results if directions are followed to the letter.

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*Creswell. U. S. Department of Agriculture.

A good ketchup may be made in winter by using 5 cans of 4-H tomatoes, 1 cup of chopped onions, and half the quantity of all other ingredients mentioned in the above recipe.

Chili Sauce.—Tomatoes for chili sauce are mashed through a colander instead of through a sieve, thus allowing the seed to remain in the finished product. Use the same recipe as for tomato ketchup, adding 2 level cups chopped green sweet bell peppers (leaving out seed), another level teaspoon of ground red pepper, and 1 level tablespoonful of salt. Boil until quite thick—much thicker than ketchup. Put up in pint or half pint glass jars, sealing as in canned products.

PRESERVES

To make preserves, take whole berries, small fruits or uniform pieces of larger fruits and cook them in syrup until they are saturated. The proportions are usually 1 pound of fruit to ¾ pound of sugar.

When fruit is cooked in syrup diffusion between the fruit juices and the syrup takes place. If the syrup is thin when the fruit is put into it, the mixing or diffusion of the fruit juices and the syrup, through the cells of the fruit, takes place very evenly and the fruit remains plump; but if the syrup is very heavy, the fruit juices are drawn out rapidly and the heavy syrup cannot enter the fruit rapidly enough to prevent a shrinkage or shriveling.

It is necessary, therefore, to start preserves in a thin syrup. Boil until the fruit is done. Remove the fruit and place it in a shallow dish, allowing it to stand in some of the syrup while the remainder boils thicker. Pour this thick syrup over the fruit on the platter and let stand until cold or until the next day, when the whole may be returned to the kettle, allowed to come to a boil, and the fruit removed and set aside in a shallow dish until the syrup is again boiled down. When thick enough this syrup is poured over the fruit as at first and the vessel covered and allowed to stand until next morning. The fruit is packed cold in quart or commercial jars, the syrup poured in little by little as the packing progresses, and until the jar is quite full. The packer must use a thin reed paddle to remove air bubbles and to push the fruit in place.

Pack preserves in square jar, or if for the market, in jar No. 5042.

All jars packed with preserves must be processed after filling 15 minutes to destroy mold spores. Fill the jar. Exhaust 5 minutes. Process 15 minutes.

Never use metal kettle for preserves, jams, or jellies. Porcelain-lined or agate kettles are desirable.

Always cook preserves, jams, and jellies in open vessel that evaporation may take place easily.

The jar 5042 is the 12-ounce cylindrical, glass top, screw rim jar, which has been selected as the commercial container for 4-H fancy products. The jar selected for exhibits at fairs is the crystal, clear, square quart jar.

Peach Preserves.—Peel peaches, cut in halves if small, in quarters if large. Use 1 pound of fruit to ¾ pound of sugar. Put enough water with sugar to make a thin syrup and proceed as in directions for preserving. Pack in jar No. 5042 as symmetrically as possible. Paddle.

Process 15 minutes to prevent mold.

Pear Preserves.—Large pound pears are excellent for preserves. Peel pears and cut into uniform pieces that are not too small. Use 1 pound of fruit to ¾ pound of sugar. Put enough water with the sugar to make thin syrup. Proceed as in directions for preserving. Pack in jar No. 5042 as symmetrically as possible. Paddle.

Process 15 minutes to prevent mold.

Fig Preserves.—Gather figs when just ripe. (They must not be soft or cracked.) Peel carefully, trying not to cut too near the seed. Use 1 pound of sugar to each pound of fruit and the juice of ½ a lemon to each pound of fruit. Peeled figs will bear a much heavier syrup at the beginning of the preserving process than most fruits.

Put sugar in preserving kettle with enough water to keep from sticking. Stir occasionally until it begins to boil. Add lemon juice. This will prevent crystals forming. Add part of the figs; let them boil until clear and transparent. Remove to a platter, which should be placed in the sun if possible, and add more figs to syrup until all are used. When all figs are removed, boil syrup down until it is thick like honey. When this is done, pour in all the figs which have been sunning or standing; boil 2 minutes. Set aside until next morning, when they may be packed in jar No. 5042. Process for 15 minutes.

Packing.—Arrange figs in rows in the jars with stems up, pouring in a little syrup as you place each row. Use your paddle and you will get a beautiful effect.

This fig recipe has been used most successfully in Anson County with its large trade to outsiders, and was given to the organization by the county agent.

Figs which are peeled by hand should be labeled "Skinless Figs," as they bring a better price in the market than those that have the skins removed by scalding in soda water.

Strawberry Preserves.—Select large, firm berries. Cap and use 1 pound of fruit to ¾ pound of sugar. Proceed as in directions for preserving. Pack in jar No. 5042. All berries are best made into jam.

Cherry Preserves.—Select firm cherries, remove seed, use 1 pound of fruit to ¾ pound of sugar. Proceed as in directions for preserving. Pack in jar No. 5042.

***Preserved Watermelon Rind.**—Cut 1 pound rind into 1 inch squares. Remove peel and all pink part. Soak over night in lime water. (1 ounce lime to 2 quarts water.) The following morning let stand for 2 hours in clear water. Drain well, then drop into boiling water and boil rapidly for 10 minutes. Drain again and add gradually to the syrup (made by boiling together 2 cups of sugar and 1 quart of water.) Add to this the juice of ½ lemon and 3 extra slices of lemon. Cook until the melon is tender and transparent. Allow to stand until cold; arrange the pieces attractively in the jars, garnishing with slices of lemon. Cover with the syrup testing 50 to 55 degrees. Pack in jar No. 5042. Process 15 minutes.

Orange Marmalade.—Use 6 oranges and 2 lemons. Peel off the yellow skin of the oranges as thin as possible. Use the white part of the skin for orange pectin. Remove the tough membrane from the pulp. Add lemon juice and measure. To every cup of pulp add ¾ cup of sugar. Do not add sugar until the fruit has reached the boiling point; then add very slowly that the temperature may not be reduced. Six tablespoonfuls of orange

*Powell. Home Demonstration Work, U. S. Department Agriculture.

pectin cooked with the marmalade gives a clearer appearance. Some of the yellow skin of the orange may be cut in very thin slices and added as soon as all the sugar is in. Cook to a jelly-like consistency or to a temperature of 105½ C. Pack in 4-H jam pot or in jar No. 5042.

Gingered Pears.—10 pounds of pears, peeled and quartered; 7½ pounds of sugar; 4 ounces of ginger root or 2 level tablespoonfuls of powdered ginger; juice and the grated yellow part of the rind of 3 lemons.

Grind pears through meat chopper. Place all ingredients in enameled kettle. Cook for about 2 hours or until amber colored and of the consistency of jam. Pack while boiling hot in jar No. 5042 or in 4-H jam pot.

JAM

Jam is much easier to make than preserves and is a marketable product. It differs from preserves in the method of cooking, the object here being to cook the fruit into a soft pulp that can be mashed and blended into a smooth paste. Blackberries, strawberries, raspberries and such soft fruits as clearstone peaches and figs make excellent jam.

As in preserves, 1 pound of fruit to ¾ pound of sugar is the proportion used. Put fruit and sugar into preserving kettle with enough water to prevent burning. Boil slowly until tender, mash fruit with wooden bat or spoon, and continue to cook slowly until fruit is a smooth, thick mass. Jam is much thicker when cold than when hot.

Packing Jams.—After jam is done it should be poured immediately into jam pot or jar No. 5042, which has been thoroughly sterilized and allowed to stand in hot water. If the jam pot is used, the jam should be poured into it while boiling hot and the sterilized cork forced in very tightly. If jar No. 5042 is used, while the jar is standing in hot water, fill with boiling hot jam, fit on rubber, and screw down top tightly and quickly. These jars will need no processing if sealing is done while product is boiling hot.

The Jam Pot.—The North Carolina 4-H jam pot is made of North Carolina clay in North Carolina potteries and is a very artistic little container holding 10 ounces.

Blackberry Jam.—Select wild berries if possible; they are well flavored and have small seed. Be sure they are fully ripe. Use 1 pound of fruit to ¾ pound of sugar and proceed as in directions for jam. Pack in 4-H jam pot or in jar No. 5042.

Strawberry and Raspberry Jam.—Gather berries when fully ripe. Cap. Use 1 pound fruit to ¾ pound sugar and proceed as in directions for jam. Pack in 4-H jam pot or in jar No. 5042.

Peach Jam.—Select soft, ripe, clearstone peaches. Cut in small pieces, mash, and add sugar. Use 1 pound fruit to ¾ pound sugar, and proceed as in directions for jam. Pack in 4-H jam pot or in jar No. 5042.

Fig Jam.—Select soft, thoroughly ripe figs. Peel and mash. Use 1 pound fruit to ¾ pound of sugar with juice of ½ lemon for every pound of fruit, and proceed as in directions for jam. Pack in 4-H jam pot or in jar No. 5042.

Damson Jam.—Wash fruit and pick off stems. To seed, place a small quantity in a colander and lower in hot water. Allow them to heat slowly. Press out the seed and remove. Keep water over a slow fire until all are finished. Use 1 pound fruit to ¾ pound sugar and proceed as in directions for jam. Pack in 4-H jam pot or in jar No. 5042.

JELLY

In making jelly always select firm fruit or berries not overripe. "This fruit must contain acid and pectin. The pectin is a carbohydrate which has been very little investigated. For our purposes it is sufficient to know that it is essential for successful jelly making. Heating is necessary in order to extract pectin from the fruit. Frequently when no pectin is found in the raw, pressed juice of certain fruits, juice cooked out of the same fruit will yield large amounts of it.

"To juicy fruit, add the smallest possible amount of water. When heated through, crush the fruit and cook the whole mass thoroughly. Strain through moistened double cheese cloth or flannel bags." Always have a drip bag of stout material—flannel is good—that the pulp may not ooze through. To extract all the juice squeeze the bag and afterwards strain this clouded juice through another bag to make it clear.

Never cook in a tin or iron vessel, and never cook with the lid on the vessel.

Jelly is one of the things that cannot be repacked. Its firmness is destroyed when it is reheated. Therefore have the glasses and jars ready for filling when the jelly is cooked. Peaches, pears, huckleberries and cherries do not make good jelly. These are best in preserves and jams.

Perhaps the best lesson in jelly making can be given by following directions for making apple jelly:

Apple Jelly.—In making apple jelly select a good tart apple, firm and juicy. The winesap apple is excellent for this purpose. Wash well and take out all defective spots. Cut into quarters straight through the core and do not peel. The core and peeling give a great deal of pectin which is needed in jelly making. Put these pieces in a porcelain-lined or agate vessel to cook. For each measure or weight of peel taken there should be added at least 1 measure or weight of water. With some peels which are hard and difficult to cook it is the practice to add 1½ measure or weight of water to each measure or weight of peel taken. Cook until they are quite soft. Have ready a bag of unbleached muslin or flannel, which should be hung from a strong nail or hook, pour into it the cooked apples, and allow them to drip overnight into a large bowl. The juice thus obtained is measured next morning; and for every pint of juice add 1 level pint of sugar. Cook this mixture in a porcelain-lined or agate vessel until it jells—that is, until it slides in sheets from the spoon. Practice will make one expert in determining when jelly is cooked enough. If a centigrade thermometer is used the jelly should be done at about 105½ degrees temperature. If cooked too long the product becomes sticky as do preserves, and then cannot be called jelly. Should one be fortunate enough to have any quinces it would be well to make the jelly half of apples and half of quinces. Quinces jell more easily than almost any other fruit.

After jelly is done, pour it in glasses which have been sterilized. Set away in a cool place, covering with a cloth, and next morning melt paraffin and pour a thin coating over every glass or jar. Never seal jelly while hot.

Put the top on the glass, write name on label, and paste it under the bottom of the glass. This will serve until the jelly is ready for the market, when the 4-H label may be pasted ¼ inch from the lower edge of the glass.

Blackberry Jelly.—Blackberries should not be fully ripe for good jelly. Wash them and place in a vessel with 1 quart of water to ½ bushel of fruit. Cook until soft. Put into the bag, let drip, measure 1 pint of juice to 1 pint of sugar, and proceed as in apple jelly.

Scuppernong Jelly.—Grapes should not be fully ripe. Wash and place in vessel both the grape and the hull. It is best to pop the grape from the hull before cooking. Cook until soft, pour in a bag, let drip, measure 1 pint of juice to 1 level pint of sugar, and proceed as in apple jelly. Scuppernong jelly made without the hulls is of light amber color and quite flat and insipid. When the hulls are added a beautiful red color and a delicious acid flavor is obtained.

To prevent cream of tartar crystals forming in scuppernong or any other grape jelly, can the boiled juice in glass jars and leave until the crystals form and deposit. The juice can then be poured off and used as given in the recipe.

It is hoped that North Carolina will make a specialty of its scuppernong jelly, and that the club girls will take great pains in putting out a fine product.

Pectin for Use With Fruits With Little Pectin.—Some fruits have not enough pectin to form a jelly, and it becomes necessary to obtain this pectin from other fruits. It has been discovered that from the white skin of the orange when properly treated a great deal of pectin may be extracted. Here is a method which has been suggested by Dr. Straughn, of the United States Bureau of Chemistry:

Peel every particle of the outside yellow skin of the orange, cutting it off as thin as possible. Remove all of the white peel. Grind this peel with a meat chopper, and to each cupful pressed down add the juice of a lemon and allow to stand one hour. Add 2 cups of water. Heat to boiling and boil 5 minutes. Set aside until next morning; then add 4 cups of water, heat to boiling, and boil 10 minutes. Allow to cool, drip through cheese cloth, and then through bag. This pectin may be prepared, poured into jars while hot, sealed, sterilized, and kept for later use. The peel which has been allowed to drain may be again treated as described and a quantity of pectin will be obtained.

Pectin Test.—A most valuable aid in determining when a juice contains sufficient pectin is the alcohol pectin test. Pour a teaspoonful of fruit juice into a cup and pour into the cup a teaspoonful of grain alcohol of 95 per cent strength; mix by gently shaking, then pour into a spoon. If the precipitated pectin is in a solid lump it is safe to add a measure of sugar to a measure of juice in making jelly; if, however, it has not gathered in one lump the amount of sugar should be decreased.

Strawberry Jelly.—Strawberry jelly can be made by using 1 cup orange pectin to 1 cup strawberry juice. Add 1½ cups of sugar. Boil until jelly

stage is reached (about 105½ C.) Prepare strawberry juice by crushing berries and boiling for 10 minutes, stirring constantly. Place in jelly bag and allow to drip.

Mint Jelly.—Take 1 pint orange pectin as prepared above, heat to boiling. Add 1 pound of sugar. Boil until jelly stage is reached (about 105½ C.). At this point add green vegetable coloring (Burnett's)—a very small quantity on one tine of a fork will be sufficient. Add 2 drops of oil of peppermint. Stir thoroughly. Pour into glasses.

ADDITIONAL SUGGESTIONS FOR MAKING JELLY.

The Jelly Bag.—White flannel, cut into a square and two adjacent sides French-seamed together, makes the best home-made jelly bag. If the two open sides are hemmed and loops placed at corner and seam, the bag may easily be hung on nails while the juice is dripping.

Cooking the Jelly.—Sugar should be added slowly as soon as juice begins to boil.

Rapid boiling produces a clearer jelly. The jelly should, therefore, be boiled rapidly until the jelly stage is reached.

Pouring Jelly Into Glasses.—The glasses should be sterilized by putting them into a vessel of cold water and letting the water come to the boiling temperature and boiling for 5 minutes. Remove the glasses from the water, drain while hot, and pour jelly in as soon as it has reached the jelly stage.

Skimming.—The jelly need not be skimmed until cooking is completed.

The Thermometer.—That jelly making may be done with more certainty the use of a centigrade thermometer is advised. It would be well to purchase a thermometer registering from 0 to 150 degrees. Different juices jell at slightly different temperatures, but when the mercury begins to reach 104 degrees centigrade constant watching is necessary. Many juices jell at 105½° centigrade. Test the different juices and determine at exactly what temperature they jell. The skilful use of a thermometer will save many a failure in jelly making.

The Hydrometer.—By means of the hydrometer the density of the juice can be determined and the amount of sugar necessary to make a jelly is determined from this. The hydrometer should be graduated in degrees Brix and indicates the per cents solids in the solution. It should read in ½ degree from 0 to 30, from 30 to 60, or from 60 to 90. Before taking the reading of the Brix, the juice should be cooled to about room temperature, either by allowing it to stand or by placing it in a double boiler, the lower one to be filled with cold water.

PICKLES

Cucumber Pickle.—Pickle making begins with the brine, and to carelessly made or carelessly kept brine is attributed most of the soft and unfit cucumbers. Make the brine with enough salt to float an egg. (This old-fashioned test is a good one.) From 65 per cent to 70 per cent salt will be necessary. Fill until two-thirds full a keg on which may be fitted a tight wooden top.

Gather the cucumbers when they are small if a purely commercial pickle is desired. They should not be over 2 inches long, preferably 1½ inches. Do not wash unless they are covered with sand or dirt. Put these cucumbers into the keg of brine each morning, taking care to add salt from time to time to keep the brine sufficiently strong. Stir from the bottom frequently also. Keep the top tightly fitted to the keg at all times, as exposure to air and light will surely cause pickles to soften.

Let cucumbers remain in brine until a certain fermentation has taken place, which will make them ready for pickling. This can be determined usually by the change of color from green to an olive or greenish brown color. A little experience will soon make a person expert in choosing the right time for pickling. Roughly speaking, leave cucumbers for six weeks in brine before using. Always place a weight on them that they may be covered with brine.

Before converting into pickles, remove from brine and soak over night in twice their bulk of cold water.

Spiced Vinegar.

To 1 gallon of vinegar add:
2 sticks of cinnamon,
2 tablespoonfuls of unground allspice,
2 tablespoonfuls of unground cloves,
2 pounds of sugar,
1 cup of horse radish ground or cut in small pieces.
Always use first quality vinegar.

Tie spices in muslin bag, drop these in vinegar, add sugar and horse-radish, and boil for fifteen minutes. Add salt to taste if too much salt has been removed from the cucumbers. Set spiced vinegar aside for 3 days before removing spice bag, when it will be ready for the pickle.

Cooking Pickles.—Place the spiced vinegar in porcelain or agate vessel, bring to a boil, add cucumbers, a few at a time; let boil again; remove pickles, and pack in stone jars or large glass jars. Continue until all cucumbers are pickled. One gallon of vinegar will pickle three-fourths of a peck of cucumbers.

It is advisable to pack pickles in stone jars or any large jars first, that enough vinegar may be added not only to cover, but to surround them.

Fusion takes place between the juices of the cucumber and the vinegar, and we get a weakened liquor in consequence. It is advisable, therefore,

that pickles be kept for at least six weeks in plenty of spiced vinegar before packing them tightly in commercial jars where there is room for only a small amount of vinegar.

Vinegar.—Frequently pickles are spoiled by the use of inferior vinegar. Distilled white vinegar is best, and can be had from vinegar works or grocery stores.

Good, strong cider vinegar may be used for sliced tomato pickle, chow-chow, and mustard pickle, but in packing pickles, like cucumbers or onions, a white distilled vinegar must be used.

Commercial Packing.—Always add fresh spiced vinegar when packing in commercial jars. Pack cucumbers of one size only in a jar and arrange symmetrically. Use as a model a first-class jar of pickles, which can be found in any good grocery store.

Jars, after being packed with pickles, should be put into the canner and processed 15 minutes to prevent mold.

Cucumber pickles should be garnished with 2 small red peppers from which the seed have been removed, one pod on each side of the jar. Another and an additional garnish would be small silver-skin onions ½ to ¾ of an inch in diameter, 10 to a quart jar. These onions must be dropped into boiling brine and allowed to boil 3 minutes before placing in a large jar holding the cucumber pickles.

Never allow spices to remain in the jar, as they darken pickle and produce in time a bitter taste.

Pack in jar No. 5042, the 12-ounce glass top, screw rim jar or the square Queen jar.

Sliced Cucumber Pickle.

72 cucumbers about 7 inches long,
2 quarts sliced onions,
2½ ounces tumeric,
¼ ounce mace unground,
½ ounce cloves, unground—spices,
½ ounce black pepper,
2 ounces ground mustard,
3 ounces white mustard seed,
3½ ounces celery seed,
4 pounds sugar.

Tie mace and cloves loosely in muslin bag and drop in enough vinegar to cover pickle. Boil for 15 minutes. Add tumeric, black pepper, mustard, celery seed and sugar. Let this come to a boil and add pickles, which have been previously prepared.

To prepare pickles, remove cucumbers from brine in which they have been kept for six weeks as in recipe for cucumber pickle, soak over night in plenty of cold water, drain and cut in cross slices or rings ½ inch thick.

Slice onions, scald with boiling brine, drop in cold water for a minute and remove. Chop peppers from which all seed have been removed. Mix and boil all for 15 minutes. Do not boil until the cucumbers soften. Let

spice bag remain in large jar with pickles for three days before removing. Pack these pickles after six weeks in square glass jars or jar No. 5042.

When Canning Club Girls are making pickles for the market they are strongly advised to select sliced green tomato, chow-chow, sweet pickle peaches and sweet pickle watermelon rind as their commercial products. These are far easier to keep up to standard than cucumber pickles.

The question of brines enters so materially into the preserving of cucumbers, and there are so many small points which are hard to master, that it is not thought wise for club members to undertake for the market anything so formidable.

Onion Pickle.—Select small silver-skin onions, sort in sizes ½ inch in diameter in the one lot, and ¾ inch in the other. Remove skins until the smooth surface is reached.

Place in a large jar or crock and pour over them a strong brine. Let stand for 24 hours.

The next day make a strong brine, bring to a boil, drop in the onions, and boil for 5 minutes. Now put them in cold water for 1 hour. Drain, place in large jars, and pour over them spiced vinegar.

Let these stand for at least six weeks before packing in commercial jars.

Process these packed commercial jars for 15 minutes as in cucumber pickles.

Jar No. 5042 is the best jar for the onion pickles.

Garnish with a sprig of mace on each side of jar. Add also small rings of hot red pepper.

Sliced Green Tomato Pickle (Sweet).

1 gallon sliced green tomatoes,
6 large onions, sliced,
1 teaspoonful ground black pepper,
1 small red pepper,
2 tablespoonfuls white mustard seed,
½ cup celery seed,
2 pounds brown sugar,
1 tablespoon allspice,
1 tablespoon cloves, pounded and tied loosely in muslin bag.

Sprinkle sliced tomatoes and sliced onions with salt. Let stand 4 hours in separate bowls, then soak in cold water 4 hours. Drain well, pressing out the water.

Put in porcelain kettle, mixing the mustard and celery seed, sugar and pepper, thoroughly with chopped ingredients. Cover with good vinegar to which the spices have been added.

Boil slowly until quite soft and tender. This pickle is not good if removed from the fire before the tomatoes are tender. After cooking, leave in the jar with plenty of the prepared vinegar. Take spice bag out after 3 days.

Pack in commercial jars after six weeks. Use jar No. 5042.

Process 30 minutes.

Chow-Chow.

1 gallon chopped cabbage,
½ gallon chopped green tomatoes,
1 dozen large onions (chopped),
1 dozen sweet bell peppers, green (chopped),
½ dozen sweet bell peppers, red (chopped),
2 pounds sugar,
½ cup ground mustard,
1 cup white mustard seed,
2 tablespoonfuls celery seed,
1 tablespoonful ground ginger,
1 ounce cloves mashed and tied in muslin bag.

Sprinkle lightly with salt the chopped ingredients, putting each in separate bowl. Let stand over night. Press the brine from them.

Bring vinegar with other ingredients to a boil, add chopped ingredients, and boil slowly half an hour.

Pour into a large jar, remove spice bag after 3 days. After six weeks pack in commercial jars.

Use same vinegar in which pickles were cooked when packing chow-chow, or chopped pickles in commercial jars.

Use jar No. 5042. Process 15 minutes.

MUSTARD PICKLE.

Dressing.

½ pound ground mustard,
½ ounce tumeric,
½ cup flour,
1½ pound brown sugar.

Rub these to a smooth paste with one cup of vinegar. Add ½ ounce of celery seed. Add gradually 1 gallon of vinegar. Place on stove until it thickens, stirring all the while.

The Pickle.—This dressing may be poured over:

1 pint very small whole cucumbers which have been taken from brine and soaked over night,
1 pint sliced cucumbers,
1 pint small onions (treated first as in onion pickle),
3 green sweet bell peppers (chopped, leaving out seed),
3 red sweet bell peppers (chopped, leaving out seed),
1 pint tiny green tomatoes (cut in half).

Keep in large jar for six weeks.

Pack for market in No. 5042, using same dressing in which it has stood. Process 15 minutes.

Tomato Soy.

1 peck medium size green tomatoes (sliced),
1 dozen silver-skin onions,
½ pound white mustard seed,
2 ounces whole ginger root,
3 ounces celery seed,
¼ ounce allspice (whole),
½ ounce cloves (whole),
2 ounces ground mustard (smallest size box),
1 cup horse-radish cut in small strips,
½ cup garlic,
2 pounds brown sugar,
1 pint good olive oil.

Slice the tomatoes and onions, sprinkle them well with salt, place in separate bowls and let stand 24 hours.

Pour off the brine, put tomatoes and onions in colander, and pour fresh water over them.

Place in porcelain-lined kettle in layers of tomato and onion, with all the ingredients mixed and sprinkled over the layers.

Cover with boiling vinegar in which the allspice and cloves have been dropped after tying in bag.

Let simmer for an hour or until the tomatoes look clear.

Put in sterilized jar when cold.

Pour over this the pint of olive oil. Cover jar tightly and do not use or pack in commercial jars until pickle has stood for at least six weeks.

This pickle is best packed in the 4-H jam pot. It is quite delicious, though rather expensive. It might be used as a rather fancy product.

Stuffed Bell Pepper Pickle.—Chop fine 1 medium sized, hard, white head of cabbage, sprinkle it with salt, and allow to stand for 2 hours. Squeeze dry by placing in muslin bag and twisting tightly.

Thoroughly mix with this cabbage:
2 ounces white mustard seed,
2 tablespoonfuls celery seed,
2 tablespoonfuls grated horse-radish.

The Peppers.—Select sweet, bell peppers of medium and uniform size, cut off the top with the stem, remove every seed, stuff peppers with the filling, replace top and stitch firmly with needle and coarse thread.

Place peppers in stone jars, pouring over them enough boiling spiced vinegar to cover thoroughly. Allow to remain in vinegar six weeks before packing in commercial jars. Use fresh spiced vinegar for packing.

Pack in square Queen jars or jar No. 5042.

Process 15 minutes.

*Dixie Relish.

1 quart chopped cabbage,
1 pint chopped white onion,
1 pint chopped sweet red pepper,
1 pint chopped sweet green pepper,
5 tablespoonfuls salt,
4 tablespoonfuls mustard seed,
2 tablespoonfuls celery seed (crushed),
2 cups sugar,
1 quart vinegar.

Soak the pepper in brine (1 cup salt to 1 gallon water) for 24 hours. Freshen in clear, cold water for 1 or 2 hours. Drain well. Remove the seed and coarse, white sections. Chop separately, and measure the chopped cabbage, peppers and onions before mixing. Add spices, sugar and vinegar. Let stand over night covered in a crock or enameled vessel. Pack in small sterilized jars—No. 5042.

When ready to pack, drain off the vinegar from the relish, in order that the jar may be well packed. Pack the relish in the jars, pressing it carefully; then pour over it the vinegar which was drained off. Paddle the jar thoroughly, to get out every bubble and allow the vinegar to displace all air spaces. Garnish each jar with two quarter-inch pointed strips of red pepper 3 inches long. Place these strips vertically on opposite sides of the seams of the jar.

Process for 10 minutes at boiling temperature.

Sweet Pickle Peaches.

½ bushel firm clingstone peaches,
1 gallon vinegar,
8 pounds sugar,
1 ounce cloves,
3 sticks cinnamon.

Select ripe but firm peaches—absolutely sound. Peel by hand, endeavoring to do it as smoothly as possible.

Boil vinegar, sugar and cinnamon and cloves (tied in bag) 5 minutes; add peaches, ¼ at a time; allow them to get hot throughout, remove from fire, place in jar, and when all have been heated, pour over them the vinegar and seal the jar. Let remain in this jar one month before packing in commercial jars.

Use jar No. 5042, or square Queen jar.

Process 15 minutes.

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*Creswell. Home Demonstration United States Department Agriculture.

Watermelon Rind Sweet Pickle.

7 pounds prepared watermelon rind,
3 pints vinegar,
4 pounds sugar,
¾ ounce cloves (whole),
2 sticks cinnamon,
1½ ounce ginger root.

Prepare 7 pounds of rind. Remove the green part and cut off the pink melon until the rind is firm. Cut these pieces into uniform strips 1¼ inch wide and 2½ inches long, or cut into fancy shapes with small cutters.

Let stand over night in weak brine. Rinse off and scald until tender in alum water. Rinse again in cold water.

Place in porcelain-lined kettle, pour in vinegar, sugar, cinnamon, and slightly pounded ginger root. Tie cloves in bag and add. Cook until rind is tender. Put in jars, seal and allow pickle to stand 1 month before packing in commercial jars.

Use jar No. 5042, processing 15 minutes.

Yellow Cucumber Sweet Pickle.—Thoroughly ripe cucumbers that have turned yellow can be treated in the same manner as the watermelon rind and made into excellent sweet pickle.

SHIPPING

PACKING TIN FOR SHIPPING.

When tin cans are packed to be shipped, a box containing two dozen cans is the regulation shipping case. These boxes must be uniform in size and of neat appearance. Under no condition ship to a merchant a box containing five, six, or even three dozen cans. This is most unbusinesslike and the dealer is justifiably provoked when he tries to pack such a box in a space designed for boxes of regulation size. Barrels are not good shipping containers for tin, but are excellent for small shipments of glass.

Pack cans in box and nail on top. Be careful not to drive nails into cans. Many cans have been spoiled in this manner. Paste on both ends of the box a label such as you have on the cans that the contents of the box may be easily discerned. Write name and address of the purchaser plainly on a tag and tack with very short tacks on top of box. Write the name of the club member or shipper on another tag and tack this in the upper left hand corner of top. Be careful that tacks do not pierce the cans.

PACKING GLASS FOR SHIPPING.

The corrugated paper boxes with partitions have not been found sufficiently safe in shipping products packed in glass in less than carload lots. It is, therefore, advised that each separate glass jar be wrapped in excelsior, tied and packed in boxes or barrels, the sides, top and bottom of which are lined with the same packing. Jars wrapped in this manner can be packed also in the strong corrugated paper boxes. Barrels are good shipping containers where only a few dozen jars are shipped at once. Use uniform boxes in making a shipment. There are many box factories from which supplies may be had.

BILL OF LADING.

Send to the merchant to whom shipment is made the bill of lading given by the freight agent, and notify the merchant of the shipment. Send to him also a list of what has been shipped. This is called an invoice. Keep a copy of the invoice for your own information.

EXPRESS RECEIPT.

Always get an express receipt when shipping by express. Keep this in case of trouble.

SOME SHIPPING TERMS.

F. O. B. means free on board. For example: Should a shipment of tomatoes be made to New York at $2.00 per case, f. o. b. Raleigh, it would mean that the club member would deliver the cased tomatoes to the freight depot at Raleigh, and the purchaser would pay both the price per case and the

freight. Should the club member deliver products f. o. b. New York, it would mean she would deliver them to the freight depot, Raleigh, and also pay the freight to New York.

C. O. D. means collect on delivery, and the purchaser must pay the price of the products to the transportation company before they can be taken from the express office.

Bill of Lading with Sight Draft Attached is also a call for the money before the purchaser can take products from the freight office. Any banker will explain this to the shipper.

Drop Shipment. When a wholesale merchant purchases a number of club products he frequently desires to have them shipped direct to some firm or firms purchasing from him that he may eliminate the expense of two shipments. This is called a drop shipment.